



IFW

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of

MARUOKA

Atty. Ref.: 4815-2; Confirmation No. 5378

Appl. No. 10/563,658

TC/A.U. 1621

Filed: February 7, 2006

Examiner: Unknown

For: OPTICALLY ACTIVE QUATERNARY AMMONIUM SALT, PRODUCTION METHOD THEREOF, AND METHOD FOR PRODUCING OPTICALLY ACTIVE A-AMINO ACID DERIVATIVE USING THE QUATERNARY AMMONIUM SALT

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June 16, 2006

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

**SUBMISSION OF INTERNATIONAL PRELIMINARY EXAMINATION REPORT ON
PATENTABILITY**

Attached is a copy of the International Preliminary Examination Report (English version) mailed May 26, 2006 and issued in the underlying International patent application.

Please consider this information when examining the above-identified U.S. national stage application.

Respectfully submitted,
NIXON & VANDERHYE P.C.

By: _____

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From the INTERNATIONAL BUREAU

PCT

NOTIFICATION OF TRANSMITTAL
OF COPIES OF TRANSLATION
OF THE INTERNATIONAL PRELIMINARY REPORT
ON PATENTABILITY
(CHAPTER I OR CHAPTER II
OF THE PATENT COOPERATION TREATY)
(PCT Rules 44bis.3(c) and 72.2)

To:

KISHIDA, Masayuki
Marunouchi-Yaesu Building
Room 424
6-2, Marunouchi 2-chome
Chiyoda-ku, Tokyo 1000005
JAPON

HIKARI
PATENT OFFICE
JUN. - 5. 2006
RECEIVED

Date of mailing (<i>day/month/year</i>) 26 May 2006 (26.05.2006)	
Applicant's or agent's file reference FP0272PCT	IMPORTANT NOTIFICATION
International application No. PCT/JP2004/010387	International filing date (<i>day/month/year</i>) 22 July 2004 (22.07.2004)
Applicant TOSOH CORPORATION et al	

1. Transmittal of the translation to the applicant.

The International Bureau transmits herewith a copy of the English translation of the international preliminary report on patentability (Chapter I).



The International Bureau transmits herewith a copy of the English translation of the international preliminary report on patentability (Chapter II).

2. Transmittal of the copy of the translation to the designated or elected Offices.

The International Bureau notifies the applicant that copies of that translation have been transmitted to the following designated or elected Offices requiring such translation:

None

The following designated or elected Offices, having waived the requirement for such a transmittal at this time, will receive copies of that translation from the International Bureau only upon their request:

AE, AG, AL, AM, AP, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EA, EC, EE, EG, EP, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OA, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW

3. Reminder regarding translation into (one of) the official language(s) of the elected Office(s).

The applicant is reminded that, where a translation of the international application must be furnished to an elected Office, that translation must contain a translation of any annexes to the international preliminary report on patentability (Chapter II).

It is the applicant's responsibility to prepare and furnish such translation directly to each elected Office concerned within the applicable time limit (Rule 74.1). See Volume II of the PCT Applicant's Guide for further details.

The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland Facsimile No.+41 22 740 14 35	Authorized officer Masashi Honda Facsimile No.+41 22 338 70 10
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PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

(Chapter I of the Patent Cooperation Treaty)

(PCT Rule 44bis)

Applicant's or agent's file reference FP0272PCT	FOR FURTHER ACTION	See item 4 below
International application No. PCT/JP2004/010387	International filing date (<i>day/month/year</i>) 22 July 2004 (22.07.2004)	Priority date (<i>day/month/year</i>) 23 July 2003 (23.07.2003)
International Patent Classification (8th edition unless older edition indicated) See relevant information in Form PCT/ISA/237		
Applicant TOSOH CORPORATION		

1. This international preliminary report on patentability (Chapter I) is issued by the International Bureau on behalf of the International Searching Authority under Rule 44 bis.1(a).

2. This REPORT consists of a total of 5 sheets, including this cover sheet.

In the attached sheets, any reference to the written opinion of the International Searching Authority should be read as a reference to the international preliminary report on patentability (Chapter I) instead.

3. This report contains indications relating to the following items:

- | | | |
|-------------------------------------|--------------|---|
| <input checked="" type="checkbox"/> | Box No. I | Basis of the report |
| <input type="checkbox"/> | Box No. II | Priority |
| <input type="checkbox"/> | Box No. III | Non-establishment of opinion with regard to novelty, inventive step and industrial applicability |
| <input type="checkbox"/> | Box No. IV | Lack of unity of invention |
| <input checked="" type="checkbox"/> | Box No. V | Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement |
| <input type="checkbox"/> | Box No. VI | Certain documents cited |
| <input type="checkbox"/> | Box No. VII | Certain defects in the international application |
| <input type="checkbox"/> | Box No. VIII | Certain observations on the international application |

4. The International Bureau will communicate this report to designated Offices in accordance with Rules 44bis.3(c) and 93bis.1 but not, except where the applicant makes an express request under Article 23(2), before the expiration of 30 months from the priority date (Rule 44bis .2).

The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland	Date of issuance of this report 15 May 2006 (15.05.2006)
Facsimile No. +41 22 740 14 35	Authorized officer <div style="text-align: center; font-weight: bold;">Masashi Honda</div>
Telephone No. +41 22 338 70 10	

PATENT COOPERATION TREATY

TRANSLATION

From the
INTERNATIONAL SEARCHING AUTHORITY

PCT

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43bis.1)

To:

Date of mailing
(day/month/year)

Applicant's or agent's file reference

FP0272PCT

FOR FURTHER ACTION

See paragraph 2 below

International application No.

PCT/JP2004/010387

International filing date (day/month/year)

22.07.2004

Priority date (day/month/year)

23.07.2003

International Patent Classification (IPC) or both national classification and IPC

Applicant

TOSOH CORPORATION

1. This opinion contains indications relating to the following items:

- | | | |
|-------------------------------------|--------------|--|
| <input checked="" type="checkbox"/> | Box No. I | Basis of the opinion |
| <input type="checkbox"/> | Box No. II | Priority |
| <input type="checkbox"/> | Box No. III | Non-establishment of opinion with regard to novelty, inventive step and industrial applicability |
| <input type="checkbox"/> | Box No. IV | Lack of unity of invention |
| <input checked="" type="checkbox"/> | Box No. V | Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement |
| <input type="checkbox"/> | Box No. VI | Certain documents cited |
| <input type="checkbox"/> | Box No. VII | Certain defects in the international application |
| <input type="checkbox"/> | Box No. VIII | Certain observations on the international application |

2. **FURTHER ACTION**

If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA/JP

Authorized officer

Facsimile No.

Telephone No.

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

International application No.

PCT/JP2004/010387

Box No. I Basis of this opinion

1. With regard to the language, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.
☐ This opinion has been established on the basis of a translation from the original language into the following language
_____, which is the language of a translation furnished for the purposes of international search (under Rule 12.3 and 23.1(b)).
2. With regard to any nucleotide and/or amino acid sequence disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:
 - a. type of material
☐ a sequence listing
☐ table(s) related to the sequence listing
 - b. format of material
☐ in written format
☐ in computer readable form
 - c. time of filing/furnishing
☐ contained in the international application as filed.
☐ filed together with the international application in computer readable form.
☐ furnished subsequently to this Authority for the purposes of search.
3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table(s) relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
4. Additional comments:

**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.

PCT/JP2004/010387

Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Claims	1-29, 36, 51-60	YES
	Claims	30-35, 37-50	NO
Inventive step (IS)	Claims	1-29, 36, 56-60	YES
	Claims	30-35, 37-55	NO
Industrial applicability (IA)	Claims	1-60	YES
	Claims		NO

2. Citations and explanations:

Document 1: MAILLARD, David et al., Chiral perfluorous analogues of MOP. Synthesis and applications in catalysis, Tetrahedron: Asymmetry, 2002, Vol. 13, No. 13, p. 1449-1456

Document 2: JP 2002-356454 A (Japan Science and Technology Agency), 13 December 2002 (Family: none)

Document 3: YAMASHITA, Yasuhiro et al., Highly Anti-Selective Asymmetric Aldol Reactions Using Chiral Zirconium Catalysts. Improvement of Activities, Structure of the Novel Zirconium Complexes, and Effect of a Small Amount of Water for the Preparation of the Catalysts, Journal of the American Chemical Society, 2002, Vol. 124, No. 13, p. 3292-3302

Document 4: TIAN, Yuan et al., An asymmetric catalytic carbon-carbon bond formation in a fluorous biphasic system based on perfluoroalkyl-BINOL, Tetrahedron Letters, 2000, Vol. 41, No. 45, p. 8813-8816

Claims 30-35 and 37-43 are described in document 1 (Scheme 1 and 2) cited in the ISR; thus they do not appear to possess novelty or involve an inventive step.

Claims 37-42 and 44-50 are described in document 2 (paragraphs 0040-0067) cited in the ISR; thus they do not appear to possess novelty or involve an inventive step.

Claims 37-42 and 44-50 are described in document 3 (Scheme 2 and 3) cited in the ISR; thus they do not appear to possess novelty or involve an inventive step.

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

International application No.

PCT/JP2004/010387

Supplemental Box

In case the space in any of the preceding boxes is not sufficient.

Continuation of: Box V.2

Claims 51-55 could easily be invented by combining the manufacturing method described in document 2 and the chemical compound described in document 4 (Scheme 1) cited in the ISR; thus they lack an inventive step.

Claims 51-55 could easily be invented by combining the manufacturing method described in document 3 and the chemical compound described in document 4 (Scheme 1) cited in the ISR; thus they lack an inventive step.

The inventions described in claims 1-29, 36, and 56-60 are not described in any of the documents cited in the ISR or found to be related to the relevant inventions and would not be obvious to a person skilled in the art.